IN THE CLAIMS

1. [Amended] A sensor cartridge for a fluid analyte analyzer, including

(a) a sensor assembly, including:

(1) a substrate;

(2) a plurality of sensors deposited on a first side of the substrate;

(3) a plurality of electrical conductors deposited on a second side of the substrate;

(4) a plurality of subminiature thru-holes filled with electrically conductive material, each thru-hole disposed directly under a corresponding one of the sensors for coupling one of the sensors with one of the electrical conductors;

(5) an electrical connector disposed on the second side of the substrate, the connector having a plurality of electrical contacts, at least some of the electrical contacts corresponding one to one with an associated one of the electrical conductors and at least some of the electrical contacts being coupled to the associated one of the electrical conductors; and

(b) an encasement into which the sensor assembly is placed for directing the flow of the analyte over the sensors, and preventing contact of the analyte with the second side of the substrate, including:

(1) an inlet for allowing the fluid analyte to enter the encasement;

(2) an outlet for allowing the fluid analyte to exit the encasement;

Sub C1
a1

(3) a flow channel between the inlet and the outlet for allowing the fluid analyte to pass through the housing and over each of the sensors; and

(4) an opening at one side for exposing the electrical connector.

3. [Reproduced] The sensor cartridge of claim 1, wherein the encasement further includes a reference cell.

4. [Reproduced] The sensor cartridge of claim 3, wherein the reference cell is filled with a reference gel.

Sub C2

6. [Amended] The sensor cartridge of claim 3, further including a third cell disposed symmetrically about the [flowcell] flow channel with respect to the reference cell.

and D2

7. [Amended] The sensor cartridge of claim 1, wherein the [flowcell] flow channel has a total volume of approximately 0.05 milliliters.

a2

8. [Amended] The sensor cartridge of claim 1, wherein the [flowcell] flow channel has a height of less than approximately 0.10 inches.

Sub C3

9. [Amended] The sensor cartridge of claim 1, wherein the encasement is formed of [composition of] acrylic, styrene, and butadine.

~~12.~~ 7. [Amended] The sensor cartridge of claim 3, further including a reference channel between the reference cell and the [flowcell] flow channel.

Q3

14. [Amended] The sensor cartridge of claim 1, wherein:

(c) the plurality of sensors includes an oxygen sensor; and

(d) the [flowcell] flow channel includes a dome which increases the volume of the [flowcell] flow channel locally about the oxygen sensor.

Q4

15. [Amended] The sensor cartridge of claim 14, wherein the oxygen sensor is [a] an amperometric cell.

17. [Amended] The sensor cartridge of claim 16, wherein the sodium sensor, potassium sensor, calcium sensor, and carbon dioxide sensor are [each] ion sensitive sensors.

Q5

Please cancel Claim ~~18~~ without prejudice.



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